

What is claimed is:

1. A traffic control method in a network system comprising an ATM (Asynchronous Transfer Mode) network, plural frame relay networks respectively connected to the ATM network through channels and plural terminals respectively connected to the plural frame relay networks through channels, said traffic control method comprising:

5 a step of measuring a data quantity transmitted through each channel;

10 a step of operating a traffic restrictive level corresponding to the data quantity which is measured; and

15 a step of performing a traffic restrictive process corresponding to the traffic restrictive level which is operated.

20 2. A traffic control method according to the claim 1, wherein the data quantity is measured as to data transmitted from each of the plural frame relay networks to the ATM network through the each channel.

3. A traffic control method according to the claim 1, further comprising:

a step of detecting a traffic restrictive class set for the each channel; and

a step of performing the traffic restrictive process corresponding to the traffic restrictive class which is detected.

4. A traffic control method according the claim 1,  
5 wherein said traffic restrictive process comprises a process for writing information indicating that a congestion occurs to data transmitted through the each channel.

5. A traffic control method according the claim 1,  
10 wherein said traffic restrictive process comprises a process for discarding data transmitted through the each channel.

6. A traffic control method according the claim 1,  
15 wherein said traffic restrictive process comprises a process for transmitting a message indicating that a congestion occurs to a transmitting terminal of data transmitted through the each channel.

7. A traffic control method according the claim 1,  
20 wherein said traffic restrictive process is performed based on a maximum transmission rate set for the each channel.

8. A traffic control method according to the claim

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1, wherein at least one of the plural terminals is connected to the ATM network through no frame relay network.

9. A network system comprising:

5 an ATM (Asynchronous Transfer Mode) network;  
plural frame relay networks respectively connected to the ATM network through channels;

plural terminals respectively connected to the plural frame relay networks through channels;

10 data quantity measurement means for measuring a data quantity transmitted through each channel;

restrictive level operation means for operating a traffic restrictive level corresponding to the data quantity measured by said data quantity measurement

15 means; and

traffic control means for performing a traffic restrictive process corresponding to the traffic restrictive level operated by said restrictive level operation means.

20 10. A network system comprising:

an ATM (Asynchronous Transfer Mode) network;  
plural frame relay networks respectively connected to the ATM network through channels;

25 plural terminals respectively connected to the plural frame relay networks through channels;

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data quantity measurement means for measuring a data quantity transmitted through each channel;

restrictive level operation means for operating a traffic restrictive level corresponding to the data  
5 quantity measured by said data quantity measurement means;

restrictive process storage means for storing a traffic restrictive process corresponding to the traffic restrictive level operated by said restrictive level  
10 operation means; and

traffic control means for reading the traffic restrictive process corresponding to the traffic restrictive level operated by said restrictive level operation means from said restrictive process storage  
15 means and for performing the traffic restrictive process read from said restrictive process storage means.

11. A network system according to the one of the claims 9 and 10, wherein at least one of the plural terminals is connected to the ATM network through no  
20 frame relay network.

12. A frame relay switch in plural frame relay networks in a network system comprising an ATM (Asynchronous Transfer Mode) network, said plural frame relay networks respectively connected to the ATM network  
25 through channels and provided with plural frame relay

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switch, and plural terminals respectively connected to the plural frame relay networks through channels, said frame relay switch comprising:.

5 data quantity measurement means for measuring a data quantity transmitted through each channel;

restrictive level operation means for operating a traffic restrictive level corresponding to the data quantity measured by said data quantity measurement means;

10 restrictive process storage means for storing a traffic restrictive process corresponding to the traffic restrictive level operated by said restrictive level operation means; and

15 traffic control means for reading the traffic restrictive process corresponding to the traffic restrictive level operated by said restrictive level operation means and performing the traffic restrictive process read from said restrictive process storage means.

20 13. A frame relay switch according to the claim 12, wherein said data quantity measurement means measures the data quantity transmitted from each of the plural frame relay networks to the ATM network.

25 14. A frame relay switch according to one of the claims 12 and 13, further comprising:

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restrictive class storage means for storing a traffic restrictive class set for each channel transmitting data from the plural frame relay network to the ATM network,

5 wherein said traffic control means read the traffic restrictive class from said restrictive class storage means, detect the traffic restrictive process stored correspondingly to the traffic restrictive class read from said restrictive process storage means and the  
10 traffic restrictive level operated by said restrictive level operation means, and performs the traffic restrictive process which is detected.

15 15. A frame relay switch according to the claim 12, wherein said traffic restrictive process comprises a process for writing information indicating that a congestion occurs into data transmitted through the each channel.

20 16. A frame relay switch according to the claim 12, wherein said traffic restrictive process comprises a process for discarding data transmitted through the each channel.

17. A frame relay switch according to the claim 12, wherein said traffic restrictive process comprises a process for transmitting information indicating that a

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congestion occurs to a transmitting terminal of data transmitted through the each channel.

18. A frame relay switch according to the claim 12, wherein said traffic restrictive process is based on a  
5 maximum transmission rate set for the each channel.

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